

Amendments to the Specification:

On page 1, after the title, insert the following:

CROSS-REFERENCE TO RELATED APPLICATION

This application is the U.S. national phase of PCT Appln. No. PCT/EP2004/011213 filed October 7, 2004, which claims priority to German application 103 46 973.7 filed October 9, 2003.

BACKGROUND OF THE INVENTION**1. Field of the Invention**

On page 1, before the paragraph beginning on line 9, please add the following:

2. Description of the Related Art

Please amend the paragraph beginning on page 1, at line 9, as shown below:

Polymers stabilized with protective colloids are used, in particular[[,]] in the form of their aqueous dispersions or in the form of water-redispersible polymer powders, in many applications, for example as coating compositions or adhesives for a variety of substrates, [[for]] one example being cement-containing building adhesives. The [[P]]protective colloids used are generally polyvinyl alcohols. Polyvinyl alcohol is a known and much-used protective colloid for polymer dispersions and is also used as an atomization aid for the spray drying of these polymer dispersions.

Please amend the paragraph beginning on page 1, at line 20 as shown below:

However, as a water-soluble polymer having a high [[ion]] ionic stability, polyvinyl alcohol ~~displays a~~ exhibits high sensitivity toward intruding water in the field of hydraulically setting mortar systems such as cement-containing tile adhesives. Owing to its glass transition temperature, polyvinyl alcohol also ~~displays a~~ exhibits high sensitivity to thermal stress, for example in the case of tiles which have been laid on top of heated floors heating.

On page 1, after line 29, please insert the following heading:

SUMMARY OF THE INVENTION

Please amend the paragraph beginning on page 1, at line 29 as shown below:

It is therefore an object of the invention to provide polymer compositions which comprise polyvinyl alcohol and which do not have the abovementioned disadvantages. In particular, building material compositions modified with such polymer compositions should display improved adhesive pull strengths, especially after storage under wet and hot conditions.

Please amend the paragraph beginning on page 1, at line 36 as shown below:

It has surprisingly been found that [[this]] these and other ~~object~~ objects can be achieved by means of polyvinyl alcohols which contain a latent carboxylic acid function or comprise phosphorus-containing monomer units.

On page 2, after line 2, please insert the following heading:

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Please amend the paragraph beginning on page 2, at line 4, as shown below:

The invention provides polymer compositions ~~comprising~~ containing modified polyvinyl alcohols in the form of their aqueous dispersions and water-redispersible powders, containing a base polymer which is a ~~which are based on~~ homopolymer[[s]] or copolymer[[s]] of one or more monomers from the group ~~consisting~~ of vinyl esters of unbranched or branched alkylcarboxylic acids having from 1 to 15 carbon atoms, methacrylic esters and acrylic esters of alcohols having from 1 to 15 carbon atoms, vinylaromatics, olefins, dienes and vinyl halides, ~~characterized in that~~ wherein the modified polyvinyl alcohols ~~present~~ are polyvinyl alcohols having a latent carboxylic acid function and/or polyvinyl alcohols comprising phosphorus-containing comonomer units.

Please amend the paragraph beginning on page 2, at line 18, as shown below:

Polyvinyl alcohols having a latent carboxylic acid function are obtained by copolymerizing vinyl acetate with one or more comonomers from the group ~~consisting~~ of methacrylic esters and acrylic esters of alcohols having from 1 to 15 carbon atoms and subsequently hydrolyzing the copolymer obtained in this way. In general, from 0.5 to 50% by weight, preferably from 1 to 20% by weight, ~~each~~ based in each case on the total monomer, of (meth)acrylic esters are copolymerized. Preference is given to acrylic esters of C₁-C₄-alcohols, ~~particularly~~ most preferably methyl acrylate, ethyl acrylate, n-propyl acrylate, and - and t-butyl acrylate.

Please amend the paragraph beginning on page 2, at line 31, as shown below:

Polyvinyl alcohols having phosphorus-containing comonomer units are obtained by copolymerizing vinyl acetate with one or more comonomers from the group ~~consisting~~ of vinylphosphonic acid, methacrylic esters and acrylic esters of polyalkylene glycols which are end-modified by phosphoric acid and have C₂-C₄-alkylene units and from 1 to 100 oxyalkylene units, preferably from 1 to 20 oxyalkylene units, ~~particularly~~ more preferably polyethylene glycols having from 3 to 13 oxyethylene units, and subsequently hydrolyzing the copolymer obtained in this way. Polyvinyl alcohols having vinylphosphonic acid groups can also be

obtained by firstly hydrolyzing the polyvinyl acetate and subsequently reacting the hydrolysis product with diphosphorus pentoxide. In general, from 0.5 to 50% by weight, preferably from 0.5 to 10% by weight, in each case based on total monomer, of phosphorus-containing comonomers is copolymerized.

Please amend the paragraph beginning on page 4, at line 16, as shown below:

If desired, from 0.05 to 50% by weight, preferably from 1 to 10% by weight, based on the total weight of the base polymer, of auxiliary monomers can also be copolymerized. Examples of auxiliary monomers are ethylenically unsaturated mono- and dicarboxylic acids, preferably acrylic acid, methacrylic acid, fumaric acid and maleic acid; ethylenically unsaturated carboxamides and nitriles, preferably acrylamide and acrylonitrile; monoesters and diesters of fumaric acid and maleic acid, e.g. the diethyl and diisopropyl esters, and also maleic anhydride, ethylenically unsaturated sulfonic acids or salts thereof, preferably vinylsulfonic acid, and 2-acrylamido-2-methylpropanesulfonic acid. Further examples are precrosslinking comonomers such as multiply ethylenically unsaturated comonomers, for example divinyl adipate, diallyl maleate, allyl methacrylate or triallyl cyanurate, or postcrosslinking comonomers, for example acrylamidoglycolic acid (AGA), methyl methacrylamidoglycolate (MMAG), N-methylolacrylamide (NMA), N-methylolmethacrylamide (NMMA), N-methylolallyl carbamate, alkyl ethers such as the isobutoxy ether, or ~~ester~~ esters of N-methylolacrylamide, of N-methylolmethacrylamide and of N-methylolallyl carbamate. Epoxy-functional comonomers such as glycidyl methacrylate and glycidyl acrylate are also suitable as auxiliary monomers. Further examples are silicon-functional comonomers such as acryloxypropyltri(alkoxy)silanes and methacryloxypropyltri(alkoxy)silanes, vinyltrialkoxysilanes and vinylmethyldialkoxysilanes, with methoxy, ethoxy and ethoxypropylene glycol ether radicals, for example, being able to be present as alkoxy groups. Mention may also be made of monomers having hydroxy or CO groups, for example hydroxyalkyl methacrylates and acrylates, e.g. hydroxyethyl, hydroxypropyl or hydroxybutyl acrylate or methacrylate, and also compounds such as diacetoneacrylamide and acetylacetoxymethyl acrylate or methacrylate.

Please amend the paragraph beginning on page 5, at line 26, as shown below:

Preference is given to vinyl acetate homopolymers; copolymers of vinyl acetate with from 1 to 40% by weight of ethylene; copolymers of vinyl acetate with from 1 to 40% by weight of ethylene and from 1 to 50% by weight of one or more further comonomers selected from the group consisting of vinyl esters having from 1 to 12 carbon atoms in the carboxylic acid radical, e.g. vinyl propionate, vinyl laurate, vinyl esters of alpha-branched carboxylic acids having from 9 to 13 carbon atoms, e.g. ~~VeoVa9 VeoVa®10, VeoVa10 VeoVa®10, VeoVa11 VeoVa®11 (products of Shell)~~; copolymers of vinyl acetate, from 1 to 40% by weight of ethylene and preferably from 1 to 60% by weight of acrylic esters of unbranched or branched alcohols having from 1 to 15 carbon atoms, in particular n-butyl acrylate or 2-ethylhexyl acrylate; and copolymers comprising from 30 to 75% by weight of vinyl acetate, from 1 to 30% by weight of vinyl laurate or vinyl esters of an alpha-branched carboxylic acid having from 9 to 11 carbon atoms and from 1 to 30% by weight of acrylic esters of unbranched or branched alcohols having from 1 to 15 carbon atoms, in particular n-butyl acrylate or 2-ethylhexyl acrylate, which additionally contain from 1 to 40% by weight of ethylene; copolymers comprising vinyl acetate, from 1 to 40% by weight of ethylene and from 1 to 60% by weight of vinyl chloride; with the copolymers being able to additionally contain the auxiliary monomers mentioned in the amounts indicated and the percentages by weight in each case adding up to 100% by weight.

Please amend the paragraph beginning on page 7, at line 1, as shown below:

The choice of monomers or the choice of the proportions by weight of the comonomers is generally made so that a glass transition temperature T_g of from -50°C to $+50^{\circ}\text{C}$, preferably from -30°C to $+40^{\circ}\text{C}$, results. The glass transition temperature T_g of the polymers can be determined in a known manner by means of differential scanning calorimetry (DSC). The T_g can also be calculated approximately beforehand by means of the Fox equation. According to Fox T.G., Bull. Am. Physics Soc. 1, 3, page 123 (1956): $1/T_g = x_1/T_{g1} + x_2/T_{g2} \quad [=] \pm \dots + x_n/T_{gn}$, where x_n is the mass fraction (%) by weight/100 of the monomer n and T_{gn} is the

glass transition temperature in kelvin of the homopolymer of the monomer n. Tg values for homopolymers are given in Polymer Handbook 2nd Edition, J. Wiley & Sons, New York (1975).

Please amend the paragraph beginning on page 8, at line 5, as shown below:

Redox initiators used are combinations of the initiators mentioned with reducing agents. Suitable reducing agents are the sulfites and bisulfites of alkali metals and of ammonium, for example sodium sulfite, derivatives of sulfoxyl acid such as zinc or alkali metal formaldehyde sulfoxylates, for example sodium hydroxymethanesulfinate, and ascorbic acid[[,]]. The amount of reducing agent is preferably from 0.01 to 0.5% by weight, based on the total weight of the monomers.

Please amend the paragraph beginning on page 17, at line 20, as shown below:

[[13.34]] 15.34 kg of this modified solid resin were covered with a layer of 2251 g of methanol; for hydrolysis, 299.3 g of NaOH (46% strength) were dissolved in 3.13 kg of methanol and added. The gel point was reached after 4 minutes, and the hydrolysis was stopped after 10 minutes by means of 408 g of acetic acid dissolved in 4 kg of methanol. Driving off the solvents gave a 19.2% strength solution of a modified polyvinyl alcohol having a hydrolysis number of 198, a K value of 23 and a viscosity determined by the Höppler method of 4.23.

Please amend the paragraph beginning on page 21, at line 19, as shown below:

Table 1:

Comparison of the adhesive pull strengths at 1% by weight of powder:

Sample	S1 (N/mm ²)	S2 (N/mm ²)	S3 (N/mm ²)	S4 (N/mm ²)
1(C) ¹	0.65	0.71	0.40	0.15
2	0.78	0.61	0.43	0.21
3	0.90	0.88	0.45	0.18
4(C)	0.68	0.70	0.40	0.14
5	0.76	0.73	0.44	0.19
6	0.73	0.75	0.43	0.21

¹C = Comparative Redispersible Polymer

Please amend the paragraph beginning on page 22, at line 1, as shown below:

Table 2:

Comparison of the adhesive pull strengths at 3% by weight of powder:

Sample	S1 (N/mm ²)	S2 (N/mm ²)	S3 (N/mm ²)	S4 (N/mm ²)
1(C)	1.20	0.73	0.80	0.43
2	1.33	0.80	0.99	0.52
3	1.27	0.84	1.05	0.54
4(C)	1.10	0.77	0.82	0.53
5	1.08	0.81	0.99	0.58
6	1.02	0.86	0.92	0.61

Please amend the paragraph beginning on page 22, at line 6, as shown below:

Table 3:

Comparison of the open time via adhesive pull strengths at 1% by weight of powder:

Sample	1(C)	2	3	4(C)	5	6
5 min *	0.65	0.78	0.90	0.85	0.76	0.73
20 min *	0.27	0.29	0.32	0.40	0.42	0.25
30 min *	0.16	0.19	0.20	0.15	0.20	0.1

* Adhesive pull strengths in N/mm² after an open time of 5, 20 and 30 minutes.

Please amend the paragraph beginning on page 22, at line 14, as shown below:

Table 4:

Comparison of the open time via adhesive pull strengths at 3% by weight of powder:

Sample	1(C)	2	3	4(C)	5	6
5 min *	1.20	1.33	1.27	1.10	1.08	1.02
20 min *	0.40	0.72	0.76	0.49	0.57	0.38
30 min *	0.16	0.44	0.47	0.24	0.38	0.21